

(Currently Amended) 1. A micro-stamp array supported on a substrate comprising a plurality of micro-stamp sticks wherein:

each of said micro-stamp sticks comprising a micro-stamp-stick head having a channel opened through a central portion in each of said micro-stamp sticks composed of a cured silicon rubber substantially of a same stick length extending vertically from a surface of said substrate;

each of said micro-stamp-stick heads is attached to a tapered guide tube surrounded by tapered guide-tube walls wherein said tapered guide tube is in hydraulic communication with said micro-stamp-head channel; and

a filler chip comprising a filler reservoirs disposing on top of said tapered guide tubes, each of said filler reservoirs having a refill channel opened to said tapered guide tube for refilling said tapered guide tube and said channels.

(Currently Amended) 2. The micro-stamp array of claim 1 wherein:

each of said micro-stamp channels is further sealed with a breakable membrane sticks further comprising a micro-channel for holding a liquid sample of predefined volume provided for maintaining an air liquid equilibrium specifically for said liquid sample held therein.

(Currently Amended) 3. The micro-stamp array of claim 1 wherein:

said array of micro stamp channels in hydraulic communication with said tapered guide tube are provided to contain a liquid biological sample therein in a liquid equilibrium state sticks composed of said cured silicon rubber having substantially a cylindrical shape of at least two different diameters.

(Currently Amended) 4. The micro-stamp array of claim 1 wherein:

each of said array of micro-stamp-sticks composed of a cured silicon rubber sticks composed of said cured silicon rubber having at least two different sizes of cross sectional areas.

(Currently Amended) 5. The micro-stamp array of claim 1 wherein:

each of said array of micro-stamp-sticks having a size of ten to hundred micrometers in diameter sticks composed of said cured silicon rubber having said substantially same stick length approximately equal to a thickness of a photoresist layer.

(Currently Amended) 6. The micro-stamp array of claim 1 wherein:

said array of tapered guide tubes are supported on a silicon substrate micro stamp sticks composed of said cured silicon rubber with said substantially same length having a shape and size defined by a plurality of openings in a photoresist layer.

(Currently Amended) 7. The micro-stamp array of claim 2 wherein:

said array of guide tubes are supported on a silicon substrate and bonded to said filler chip substrate further having a plurality of micro stamp tapered channels wherein each of said micro stamp channels is in fluid communication with one said micro channel in each of said micro stamp sticks.

(Currently Amended) 8. The micro-stamp array of claim 7 wherein:

said filler chip further comprising a primary refilling reservoirs
including said micro-refilling channel formed with a RIE etching
and said filler chip further comprising a secondary refilling
reservoirs hydraulically communicating with said micro refilling
channel and said tapered guide tubes each of said plurality of
micro stamp tapered channels further having a guiding tube wall
for defining a channel entrance.

(Currently Amended) 9. The micro-stamp array of claim 8 wherein:

said primary refilling reservoirs are formed in a glass substrate
guiding tube wall further comprising a patterned plating layer for
defining said channel entrance.

(Currently Amended) 10. The micro-stamp array of claim 7 8 wherein further
comprising:

said secondary refilling reservoirs are formed in a cured silicon
rubber a refilling means for refilling each of said plurality of micro-
stamp tapered channels wherein said refilling means further
comprising a refilling reservoir and a plurality of refilling micro-
channels for refilling each of said plurality of micro stamp tapered
channels from said refilling reservoir.

(Canceled) 11. A method for manufacturing micro-stamp array comprising:
depositing and filling a plurality of openings in a photoresist layer
with a liquid silicon rubber and then curing said silicon rubber.

(Canceled) 12. The method of claim 11 further comprising:

etching a via opening as a micro channel in each of said silicon
rubber.

((Canceled) 13. The method of claim 11 further comprising:

bonding a supporting substrate onto said photoresist layer followed by removing said photoresist layer to form an array of micro-stamp sticks.

((Canceled) 14. The method of claim 11 wherein:

said step of filing said liquid silicon rubber into said openings in said photoresist layer further includes a step of filling said openings in said photoresist layer having substantially a cylindrical shape of at least two different diameters.

((Canceled) 15. The method of claim 11 wherein:

said step of filing said liquid silicon rubber into said openings in said photoresist layer further includes a step of filling said openings in said photoresist layer having at least two different sizes of cross sectional areas.

(Canceled) 16. The method of claim 11 wherein:

said step of filing said liquid silicon rubber into said openings in said photoresist layer further includes a step of forming said micro-stamp sticks having a substantially same stick length approximately equal to a thickness of said photoresist layer.

((Canceled) 17. The method of claim 13 further comprising:

forming a plurality of micro-stamp tapered channels in said supporting substrate wherein each of said micro-stamp channels is formed to be in fluid communication with one said micro-channel in each of said micro-stamp sticks.

(Canceled) 18. The method of claim 17 wherein:

said step of forming said micro-stamp tapered channel further including a step of etching each of said plurality of micro-stamp tapered channels through an area on said supporting substrate surrounded and defined by a guiding tube wall.

(Canceled) 19. The method of claim 18 further comprising:

forming and defining said guiding tube wall by patterning a plating layer on said supporting substrate.

(Canceled) 20. The micro-stamp array of claim 7 further comprising:

forming a refilling means comprising a refilling reservoir and a plurality of refilling micro-channels for refilling each of said plurality of micro-stamp tapered channels from said refilling reservoir.